

Photon counting unit is designed to convert single photoelectron pulses from a photomultiplier tube (PMT) into 5 V digital signals by use of the built-in amplifier and discriminator circuits. Photon counting with a high S/N ratio can be performed by simply connecting a counter to the output of the photon counting unit.

The C9744 uses a high-speed electronic circuit that allows measurement with an excellent output linearity up to 10^7 s^{-1} . The C9744 also has a prescaler (division by 10) eliminating the need for a high-speed counter.



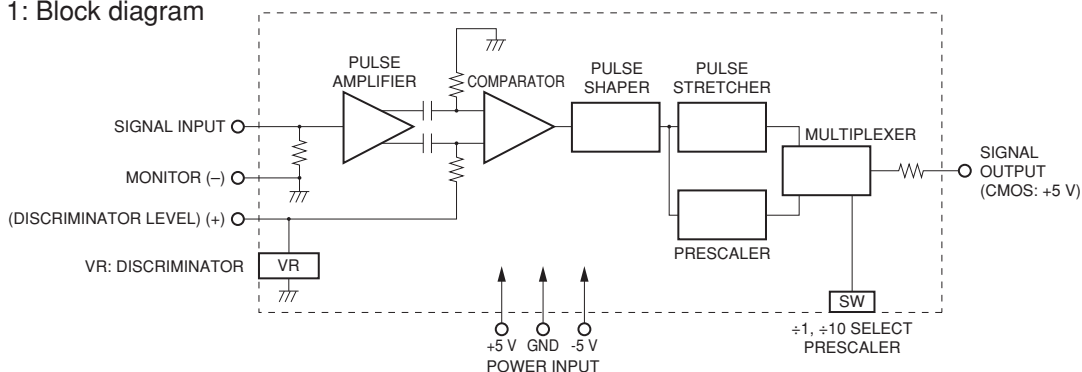
TACCF0195

SPECIFICATIONS

Parameter	C9744		Unit
Input impedance	50		Ω
Discrimination level (input conversion)	-0.4 to -16		mV
Required PMT gain	Approx. 3×10^6		—
Prescaler	$\div 1$	$\div 10$	—
Count linearity	$\div 1$	4×10^6	s^{-1}
	$\div 10$	1×10^7	
Pulse-pair resolution	$\div 1$	25	ns
	$\div 10$	10	
Output pulse	CMOS 5 V, POSITIVE LOGIC		—
Output pulse width	$\div 1$	10	ns
	$\div 10$	Depends on count rate	
Supply voltage	+5.0 V \pm 0.2 V, 130 mA / -5.0 V \pm 0.2 V, 50 mA		—
Connector	Input	BNC-R	—
	Output	BNC-R	—
	Power	DIN (6-pin) [Ⓑ]	—
Dimensions (W x H x D)	90 x 32 x 140 (excluding rubber feet and projecting parts)		mm
Operating ambient temperature	0 to +50		$^{\circ}\text{C}$
Operating ambient humidity [Ⓐ]	Below 80		%
Storage temperature	-15 to +60		$^{\circ}\text{C}$
Storage humidity [Ⓐ]	Below 85		%
Weight	Approx. 250		g

NOTE: [Ⓐ]No condensation [Ⓑ]Supplied with a cable (1.5 m) attached to the mating plug.

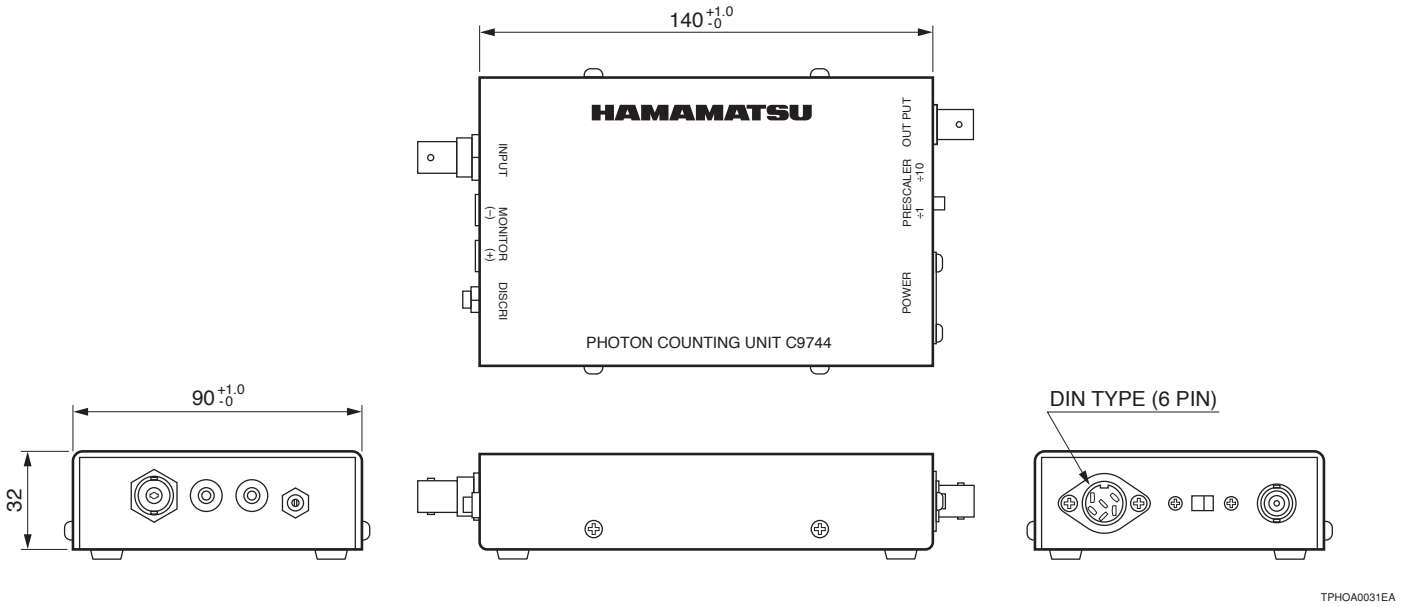
Figure 1: Block diagram



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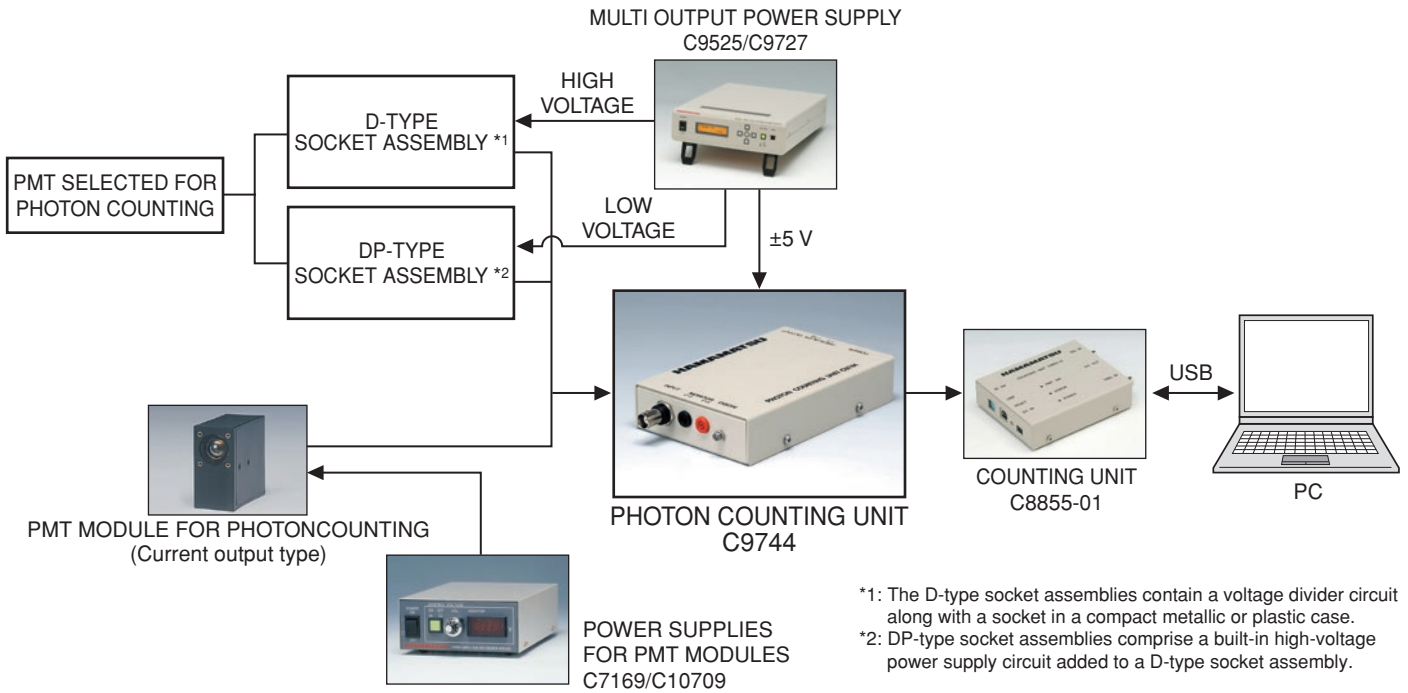
PHOTON COUNTING UNIT C9744

Figure 2: Dimensional outline (Unit: mm)



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Figure 3: Connection example



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